REMARKS

Reconsideration of the above identified application in view of the preceding amendments and following remarks is respectfully requested.

Claims 18-34 are pending in this application. By this Amendment, Applicants have amended Claims 18, 21, 27, 30, 32 and 34, cancelled Claims 24 and 29 without prejudice. The claim amendments were made to more precisely define the invention in accordance with 35 U.S.C. 112, paragraph 2. These amendments have not been necessitated by the need to distinguish the present invention from any prior art. It is respectfully submitted that no new matter has been introduced by these amendments, as support therefor is found throughout the originally filed application.

In the Office Action, Claims 18, 20-23, 25, 26 and 32-34 were rejected under 35 U.S.C. § 103 (a) over U.S. Patent No. 5,847,394 to Alfano et al. ('394 patent) in view of U.S. Patent No. 6,208,886 to Alfano et al. ('886 patent).

The '394 patent creates a single image based upon the polarization or depolarization of light. A single wavelength of polarized light illuminates the surface of a turbid medium. One image is formed by subtracting the perpendicular component from the parallel component. The '394 also suggests illuminating the surface with light of two different wavelengths and forming a second image by subtracting the normal components (e.g., the cross-polarized or perpendicular components) of the respective wavelength.

The '886 patent uses non-linear optical tomography to construct three-dimensional tomographic maps of tissue. Such non-linear systems are extremely complex and inefficient when compared to linear optical systems.

It is respectfully submitted that one skilled in the art to which the subject

invention appertains would not have been motivated to combine the '394 patent with the '886 patent as suggested by the Examiner. One of ordinary skill in the art would not look to combine a linear and non-linear optical system because of the great differences in complexity, cost and performance. Neither reference provides a motivation, teaching or suggestion to combine these references in the manner suggested by the Examiner let alone a blueprint for how to accomplish such a feat. It is only through impermissible hindsight reconstruction based on the Applicants' disclosure that one could envision this combination. Thus, the combination is not proper. Accordingly, applicant's representative asserts that Claims 18, 20-23, 25, 26 and 32-34 are patentable over the combination of the '394 patent with the '886 patent.

Furthermore, for the sake of argument, even if the references were combined as suggested by the Examiner, the claimed invention would not be obtained. If the two disclosures were combined, one would simply obtain a plurality of images from different wavelengths, each image being either the difference between parallel and cross-polarized data for the same wavelength or the image would be the difference between cross-polarized data of different wavelengths.

In contrast, Claim 18 recites, *inter alia*, a method including (a) illuminating organic tissue with polarized light of a first wavelength in an absorption range of the contrast agent and a second wavelength outside an absorption range of the contrast agent; (b) detecting remitted light that is polarized in a direction parallel to and perpendicular to a polarization of the polarized light; (c) for each wavelength, converting the remitted light into first data and second data, the first data being representative of the remitted light in a direction parallel to the polarized light and the second data being representative of the

remitted light in a direction perpendicular to the polarized light; (d) producing a difference image for each wavelength by subtracting the respective second data from the first data; and (e) subtracting the second wavelength difference image from the first wavelength difference image to create an image of a layer below a surface of the organic tissue in which the background noise is largely cancelled out. Consequently, the difference images are for a single wavelength (step (d): a difference between parallel and perpendicularly polarized light), then these difference images are subtracted to produce the image (step (e)). Additionally, by selecting wavelengths where one is within the absorption range and one is outside the absorption range of the contrast agent, the resulting image is further enhanced. Neither reference, alone or in combination, teaches such advantageous steps. Accordingly, Claim 18 and each of the claims depending therefrom are patentable over the combination of the '394 and '886 patents and an action acknowledging the same is respectfully requested.

Regarding Claim 21, it recites an apparatus having a linear optical system that creates a third image having the same novelty as noted with respect to the resultant image of Claim 18. Further, Claim 21 is a linear optical system, which, as noted above, is distinctly different from the non-linear optical system of the '886 patent. Hence, Claim 21 and each of the claims depending therefrom are also patentable over the combination of the '394 and '886 patents and an action acknowledging the same is respectfully requested.

Regarding Claim 32, it recites an imaging apparatus that also creates the same resulting image as Claim 18. Hence, Claim 32 and Claim 33 depending therefrom are also patentable over the combination of the '394 and '886 patents and an action acknowledging the same is respectfully requested.

Regarding Claim 34, it is a method that subtracts a second difference image from a first difference image. Hence, Claim 34 and Claim 35 depending therefrom are also patentable over the combination of the '394 and '886 patents and an action acknowledging the same is respectfully requested.

In the Office Action, Claim 24 was rejected under 35 U.S.C. § 103 (a) over the '394 patent and the '886 patent in view of U.S. Patent No. 6,091,983 to Alfano et al. ('983 patent). Claim 24 has been cancelled and Claim 21 from which it depended is novel for at least the reasons noted above. However, as limitations with respect to the contrast agent have been added to Claim 18, the teaching of the '983 patent are worth short discussion.

The '983 patent suggests many contrast agents. Per Claim 21, the contrast agents may emit light in the absorption range of the tissue. However, the '983 patent does not suggest using different wavelengths, one within and one outside the absorption range of the contrast. Thus, for the sake of argument, even if the combination cited against Claim 18 were appropriate or presented a proper obviousness rejection, Claim 18 would be patentable for at lease this reason.

In the Office Action, Claims 19, 27 and 29-31 were rejected under 35 U.S.C. § 103 (a) over the '394 patent and the '886 patent in view of U.S. Patent No. 5,836,999 to Eckhouse et al. (Eckhouse) or U.S. Patent No. 6,615,061 to Khalil et al. (Khalil).

Neither Eckhouse nor Khalil cure the deficiencies of the combination noted above. Hence, Claim 19 is patentable for at least the reasons noted above with respect to Claim 18, and an action acknowledging the same is respectfully requested.

Claim 29 has been cancelled to obviate the rejection thereto.

Regarding Claims 27 and 29-31, Claim 27 has been amended to include the limitations of Claim 29. Consequently, Claim 27 is a method claim that forms two difference images, one for each wavelength. It is respectfully submitted that none of the references in the cited combination, either alone or in combination, teach having both such difference images. Hence, Claims 27 and 29-31 are patentable, and an action acknowledging the same is respectfully requested.

In the Office Action, Claim 28 was rejected under 35 U.S.C. § 103 (a) over the '394 patent, the '886 patent, the '983 patent, Eckhouse and Khalil.

None of the additional references cure the deficiency of the combinations noted above with respect to Claim 27. Hence, Claim 28 is patentable for at least the reason noted above, and an action acknowledging the same is respectfully requested.

Applicants submit that the pending claims are in condition for allowance, and a notice of allowance is requested in due course. A petition and related fee for a two-month extension of time is included with this Amendment. If the amount of the extension is deemed inadequate for any reason, please consider this a conditional petition for the proper extension. If the fee amount is deemed inadequate for any reason, please consider this conditional authorization to charge any needed fee to our Deposit Account No. 04-1105.

If a telephone interview would assist the Examiner in any way, please contact applicants' undersigned attorney.

Respectfully submitted,

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